



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60 and 63

[EPA-HQ-OAR-2009-0234; EPA-HQ-OAR-2011-0044; FRL-9919-29-OAR]

RIN 2060-AS07

Reconsideration of Certain Startup/Shutdown Issues: National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units

AGENCY: Environmental Protection Agency.

ACTION: Final rule; notice of final action on reconsideration.

SUMMARY: The Environmental Protection Agency (EPA) is taking final action on its reconsideration of the startup and shutdown provisions in the final rules titled, "National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units." The national emission standards for hazardous air pollutants (NESHAP) issued pursuant to Clean Air Act (CAA) section 112 are referred to as the Mercury and Air Toxics Standards (MATS), and the new source performance standards (NSPS) issued pursuant to CAA section 111 are referred to as the Utility NSPS.

On November 30, 2012, the U.S. Environmental Protection Agency (EPA) granted reconsideration of, proposed, and requested comment on a limited set of issues in the February 16, 2012, final MATS and Utility NSPS, including certain issues related to the final work practice standards applicable during startup periods and shutdown periods. On June 25, 2013, the EPA reopened the public comment period for the reconsideration issues related to the startup and shutdown provisions of MATS and the startup and shutdown provisions related to the particulate matter (PM) standard in the Utility NSPS. The EPA is now taking final action on the standards applicable during startup periods and shutdown periods in MATS and on startup and shutdown provisions related to the PM standard in the Utility NSPS.

DATES: The effective date of the rule is **[insert date of publication in the Federal Register]**.

ADDRESSES: Docket. The EPA established two dockets for this action: Docket ID No. EPA-HQ-OAR-2011-0044 (NSPS action) and Docket ID No. EPA-HQ-OAR-2009-0234 (MATS NESHAP action). All documents in the dockets are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available (e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute). Certain other material, such as copyrighted material, will be publicly available only in hard

copy form. Publicly available docket materials are available either electronically in <http://www.regulations.gov> or in hard copy at the EPA Docket Center, Room 3334, 1301 Constitution Avenue, NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: For the MATS NESHAP action: Mr. William Maxwell, Energy Strategies Group, Sector Policies and Programs Division (D243-01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541-5430; Fax number (919) 541-5450; Email address: maxwell.bill@epa.gov. For the NSPS action: Mr. Christian Fellner, Energy Strategies Group, Sector Policies and Programs Division (D243-01), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; Telephone number: (919) 541-4003; Fax number (919) 541-5450; Email address: fellner.christian@epa.gov.

SUPPLEMENTARY INFORMATION:

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I. General Information

A. Does this action apply to me?

Categories and entities potentially affected by this action include:

Category	NAICS code ¹	Examples of potentially regulated entities
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Industry	221112	Fossil fuel-fired electric utility steam generating units.
Federal government	221122 ²	Fossil fuel-fired electric utility steam generating units owned by the federal government.
State/local/tribal government	221122 ² 921150	Fossil fuel-fired electric utility steam generating units owned by municipalities. Fossil fuel-fired electric utility steam generating units in Indian country.

¹ North American Industry Classification System.

² Federal, state, or local government-owned and operated establishments are classified according to the activity in which they are engaged.

This table is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by this action. To determine whether your facility, company, business, organization, etc., would be regulated by this action, you should examine the applicability criteria in 40 CFR 60.40, 60.40Da, or 60.40c or in 40 CFR 63.9982. If you have any questions regarding the applicability of this action to a particular entity, consult either the air permitting authority for the entity or your EPA regional representative as listed in 40 CFR 60.4 or 40 CFR 63.13 (General Provisions).

B. How do I obtain a copy of this document?

In addition to being available in the docket, an electronic copy of this final rule will be available on the World Wide Web (WWW) through the Technology Transfer Network (TTN). Following signature, a copy of the action will be posted on the TTN's

policy and guidance page for newly proposed or promulgated rules at the following address: <http://www.epa.gov/ttn/oarpg/>. The TTN provides information and technology exchange in various areas of air pollution control. A copy of this action will also be available on: www.epa.gov/mats/.

C. Judicial Review

Under CAA section 307(b)(1), judicial review of this final rule is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by **[insert date 60 days from date of publication in the Federal Register]**. Under CAA section 307(d)(7)(B), only an objection to this final rule that was raised with reasonable specificity during the period for public comment can be raised during judicial review. Note, under CAA section 307(b)(2), the requirements established by this final rule may not be challenged separately in any civil or criminal proceedings brought by the EPA to enforce these requirements.

II. Background

On February 16, 2012, the final MATS and the Utility NSPS rules were published in the Federal Register. 77 FR 9304. Following promulgation of the final rules, the Administrator received petitions for reconsideration of various provisions of both MATS and the Utility NSPS pursuant to CAA section 307(d)(7)(B), including requests to reconsider the work practice

standards applicable during startup periods and shutdown periods that were included in the final rule. Copies of the MATS petitions are provided in Docket ID No. EPA-HQ-OAR-2009-0234. Copies of the Utility NSPS petitions are provided in Docket ID No. EPA-HQ-OAR-2011-0044. The EPA granted reconsideration of the startup and shutdown provisions because the agency proposed to require sources to comply with the numeric standards at all times and did not propose a work practice standard for startup periods and shutdown periods; thus, the public was not provided an opportunity to comment on the work practice requirements contained in the final rule.¹ On November 30, 2012, the EPA published a proposed rule reconsidering certain new source standards issued in MATS and the startup and shutdown provisions in MATS and the Utility NSPS, among other things. 77 FR 71323. The EPA proposed certain minor changes to the startup and

¹ The EPA continues to believe that the final existing source standards contain sufficient variability to include startup periods and shutdown periods. Furthermore, in light of what we have learned concerning the performance of the best performing sources during startup and shutdown (e.g., clean fuel use and efficient engagement of air pollution control devices (APCDs)), we believe that the best performing electric utility steam generating units (EGUs) for startup periods and shutdown periods will have hazardous air pollutant (HAP) emissions that are lower than the numeric standards, when averaged over the startup and shutdown period as defined. However, as explained in the record, the lack of HAP data for these periods and the current technical challenges to accurately measure HAP emissions during startup and shutdown cause us to establish a work practice for such periods.

shutdown provisions contained in the 2012 final rule based on information obtained in the petitions for reconsideration. On April 24, 2013 (78 FR 24073), the EPA took final action on the new source standards that were reconsidered and also the technical corrections contained in the November 30, 2012, proposed action. The EPA did not take final action on the startup and shutdown provisions, and, on June 25, 2013, the EPA added new information and analysis to the docket and reopened the public comment period for the proposed revisions to the startup and shutdown provisions in MATS and the startup and shutdown provisions related to the PM standard in the Utility NSPS.

III. Summary of This Action

This final action includes final amendments to the startup and shutdown provisions of the final MATS and Utility NSPS issued by the EPA on February 16, 2012. This action does not alter or reopen any other MATS or Utility NSPS provisions, including those provisions recently upheld by the U.S. Court of Appeals for the District of Columbia Circuit (Court) in *White Stallion Energy Center v. EPA* on April 15, 2014. 784 F.3d 1222 (D.C. Cir. 2014). The February 2012 final rule is and remains in effect for all sources, and existing sources must comply with the final rule by April 16, 2015, or seek an extension of that compliance date from the appropriate title V permitting

authority.

The November 30, 2012, proposed reconsideration rule reopened, among other things: (1) the requirements applicable during startup periods and shutdown periods in MATS, and (2) the startup and shutdown provisions related to the PM standard in the Utility NSPS. We are taking final action today on the requirements for startup periods and shutdown periods contained in 40 CFR Part 63, subpart UUUUU, and 40 CFR Part 60, subpart Da.

As noted above, in the proposed reconsideration rule, the EPA proposed revisions to, and took comment on, the definitions of "startup" and "shutdown" and the work practice requirements associated with those periods in the final MATS rule. The EPA also took comment on the startup and shutdown provisions relating to the PM standard in the Utility NSPS. The EPA received a number of comments regarding the proposed startup and shutdown provisions, including data and information relevant to the proposed work practice standard that applies during such periods, and the agency also reviewed EGU nitrogen oxides (NO_x) and sulfur dioxide (SO₂) emissions data generated during startup periods and shutdown periods and submitted to the EPA pursuant to title IV of the CAA (i.e. the Acid Rain Program). On June 25, 2013 (78 FR 38001), the EPA reopened the public comment period on the startup/shutdown provision and solicited comment on both

the public comments provided in response to the November 30, 2012, proposal, as well as the startup and shutdown technical support document (TSD) that was based on the Acid Rain Program data that was made available in the docket.² The agency has reviewed all of the comments received on the startup and shutdown issues. As described below, the EPA is taking final action on the startup and shutdown provisions in MATS and the Utility NSPS.

Because this final rule is very similar to the February 2012 final rule, the impacts of these revisions on the costs and the benefits of the final rule are minor.

IV. Summary of Final Action and Changes since Proposal - MATS Startup/Shutdown Issues

After consideration of the public comments received and other information, the EPA is finalizing the startup and shutdown provisions contained in the final MATS rule and we are also finalizing an alternative compliance option for startup periods and shutdown periods.³ We address several significant

² The EPA is still reviewing the other issues raised in the petitions for reconsideration and is not taking any action at this time with respect to those issues.

³ This preamble does not discuss the startup and shutdown provisions provided in the February 2012 final MATS rule. (See 77 FR 9486, 9493 - 9494.) We are not altering those provisions in this final action. However, the critical control requirement (i.e., the requirement to use clean fuels to start and warm the EGU and relevant controls prior to coal, residual, or solid oil-

comments in this preamble. For a complete summary of the comments received on the issues we are finalizing today and our responses thereto, please refer to the memorandum "National Emission Standards For Hazardous Air Pollutants From Coal- And Oil-Fired Electric Utility Steam Generating Units - Reconsideration Of Certain Startup/Shutdown Issues; Summary Of Public Comments And Responses" (RTC) in Docket ID No. EPA-HQ-OAR-2009-0234.

As discussed in more detail below, the alternative work practice standard for startup periods and shutdown periods requires coal- and oil-fired EGUs to initiate startup using only clean fuels and to continue combusting the maximum amount of clean fuels possible at the facility throughout the entire startup period. EGUs that chose to comply with the alternative work practice will be required to have sufficient clean fuel capacity to startup and warm the facility to the point where the primary PM controls (e.g., fabric filters (FFs) and

derived fuel combustion, as well as recordkeeping and reporting procedures for those requirements) is the same for both. We are maintaining the final rule approach and will evaluate the continued need for the alternative definition during our ongoing 8-year reviews. We intend to use HAP and HAP surrogate data collected during periods of startup and periods of shutdown to evaluate the accuracy of CEMS from the start of electricity generation to the end of startup as defined under the alternative included in this final rule (i.e., 4 hours after electricity generation). We will use these data to help determine whether it is appropriate to make changes to the rule in the future.

electrostatic precipitators (ESPs)) can be brought on line at the same time as, or within 1 hour of, the addition of the primary fuel (i.e., coal, residual oil, or solid oil-derived fuel) to the EGU. If a facility does not have sufficient clean fuel capacity to enable initiation and operation of the PM controls within 1 hour of addition of primary fuel, then the source will have to increase its clean fuel capacity or take other action to comply with the work practice requirements in this final rule.⁴ The alternate included in this final rule also requires EGUs to comply with the applicable numeric standards within 4 hours of the generation of electricity or thermal energy for use either on site or for sale over the grid (i.e., the end of startup) and to continue to maximize clean fuel use throughout that period.

The EPA has established these final alternative

⁴ We note that the startup and shutdown provisions contained in the February 16, 2012, final MATS rule also required EGUs to maximize clean fuels during startup periods and shutdown periods, as sources are required to comply with all MATS and NSPS standards at the time of electricity generation. Therefore, EGUs complying with the work practice as finalized on February 16, 2012, will necessarily be required to warm their units on clean fuels alone for extended periods unless the operators determine that compliance over the 30-day averaging period can be achieved without certain HAP controls for a portion of time after the defined startup period. EGU operators may conclude compliance without controls for a short period after startup is possible for a number of reasons, including the variability included in the numeric standards and our understanding from regulating many HAP categories that sources generally over-control to ensure a compliance margin is maintained.

requirements after determining what the best performing EGUs do during startup periods and shutdown periods. The EPA used several different metrics to determine the best performing sources for various aspects of the work practice requirements and definitions. Specifically, concerning the use of clean fuels, the comments received and the Acid Rain data in the record indicate that most EGU operations start using clean fuels and that many of those EGUs generate electricity while using clean fuels and/or routinely engage their PM controls before or within 1 hour of beginning to combust coal, residual oil, or solid oil-derived fuel. The clean fuels identified by the commenters and included in the final rule are inherently cleaner from a HAP emissions perspective than coal, residual oil, or solid oil-derived fuel, and, for this reason, maximizing the use of clean fuels during startup will greatly limit the emissions of HAP while EGUs are warming up to temperatures sufficient to engage the air pollution control devices (APCDs). Thus, we considered those EGUs that use clean fuels for the longest period of time before the introduction of coal and the generation of electricity to be the best performing EGUs because they are likely to have the lowest amount of HAP emissions during the startup period. In addition, the best performing EGUs were also determined to be those with the ability to engage PM control devices at the time (i.e., within 1 hour) of

introduction of primary fuel. Further, we believe all of the concerns raised by commenters about the ability to engage the PM controls can be safely resolved to allow compliance with the final work practice, as explained in the RTC.⁵ We believe it is appropriate to use generation of electricity as an indicator of startup for two reasons. First, the information we have indicates that the only reason the owner/operator of an EGU chooses to fire fuel in a boiler is to generate electricity. Therefore, any event that starts with firing of fuel in a boiler that has been shut down will culminate in generation of electricity. Second, introduction of coal to the boiler is also always associated with generation of electricity. The TSD and other information confirm our understanding.

For determining the appropriate time after generation to define the end of startup (i.e., the time when the numerical standards apply), the EPA conducted an analysis of continuous emission monitor system (CEMS) data for NO_x and SO₂ from EGUs to determine the range of times after initial generation of electricity or thermal energy that EGUs typically take to engage and operate all of their APCDs. The EPA determined the best performing 12 percent of EGUs by identifying those EGUs that were able to engage their APCDs most quickly after the initial

⁵ See, e.g., EPA-HQ-OAR-2009-0234-20269, -20275, and -20303.

generation of electricity or thermal energy and averaged that time to determine the end of the startup period when the numeric standards would become applicable. Specifically, we evaluated the average startup period for the best performing 12 percent of EGUs for which the EPA has the relevant data (i.e., those with the relevant NO_x and/or SO₂ controls). We used 12 percent of the sources with the relevant controls because the metric upon which the end of startup is based depends on the presence of the relevant controls, not on the actual NO_x and SO₂ emissions. Thus, sources without the relevant controls cannot be compared against sources with the relevant controls for purposes of defining the end of startup in this final rule. CAA section 112(d)(3)(A) directs the EPA to establish MACT floor standards based on the performance on the best performing 12 percent of sources for which the Administrator has data, and, in this case, the agency does not have relevant data from all sources in the category. For this reason, it is reasonable to establish the work practice based on 12 percent of the sources with the relevant data (i.e., those EGUs with the relevant NO_x or SO₂ controls).

We used this approach to determine the end of startup because it is reasonable to expect the EGUs that are able to most quickly and efficiently engage their controls after the generation of electricity to be the best performing sources and to have the lowest HAP emissions during and directly after the

startup period, and because we are confident that EGUs will be able to accurately measure HAP emissions with CEMS at this time. The requirement to maximize the use of clean fuels (with inherently low HAP emissions) during the startup period ensures that HAP emissions are minimized during that time. Because EGUs subject to Acid Rain Program requirements are required to submit continuous NO_x and SO₂ data to the EPA, the agency believes it has data on all startup events from those EGUs subject to that program, which comprise nearly all EGUs subject to this rule, for over a decade. Thus, we believe we have a full data set from which to determine the end of the startup period for the best performing 12 percent of sources for which we have the relevant data.⁶ We maintain it is reasonable to use the CAA section 112(d)(3) metric for establishing MACT floors for existing sources as a starting point for determining the appropriate work practice when presented with such comprehensive data. See CAA 112(h)(1) (directing the agency to establish a work practice standard "which in the Administrator's judgment is consistent with the provisions of subsection (d) or (f) of this section.").

For shutdown periods, the EPA determined that sources could cease adding coal or oil to the EGU prior to shutting down the

⁶ We note that these data are not reliable for quantifying emissions for this analysis but, rather, the data allow us to evaluate when controls are turned on for the purpose of determining when startup ends.

APCDs. We determined that sources able to run their control devices even after coal or oil is added to the EGU for the last time before shutdown were the best performing sources because HAP emissions would be minimized as the EGU combusts the remaining coal or oil in the boiler.

The final work practice standard, when applied across the industry, will greatly reduce HAP emissions during startup periods and shutdown periods. The requirement to maximize clean fuel use throughout the startup period will significantly limit HAP emissions because of the inherently low HAP emissions associated with the clean fuels identified in 40 CFR 63.10042.⁷ In addition, the requirement to engage and operate PM controls as expeditiously as possible and within 1 hour of coal, residual oil, or solid oil-derived fuel combustion will limit HAP emissions that are particulate in nature throughout the remainder of the startup period. We believe that application of this work practice will lead to HAP emissions during startup periods and shutdown periods that are comparable to, and potentially lower than, those levels authorized during normal

⁷ Natural gas is one of the clean fuels identified in this final rule and the agency determined in 2000 that it was neither appropriate nor necessary to regulate natural gas-fired EGUs because the impacts from HAP emissions from such units are "negligible." See "Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units," 65 FR 79825, 79831 (December 20, 2000).

operations when averaged over the entire startup and/or shutdown period. During the 8-year review required under CAA section 112(d)(6), the agency intends to further assess HAP emissions during startup and shutdown based on data collected from sources complying with the final rule, though we recognize that prospectively our ability to establish numerical standards during startup periods and shutdown periods will depend, at least in part, on the further development of testing methodologies that will allow the agency to accurately measure emissions during those periods with an acceptable level of certainty.

The specific provisions of the alternative startup and shutdown requirements and our rationales for those provisions are discussed in more detail below and in the RTC document in Docket ID No. EPA-HQ-OAR-2009-0234.

1. Definitions

In the November 2012 reconsideration proposal, we proposed revisions to the definitions of startup and shutdown contained in the final MATS rule and set forth in 40 CFR 63.10042, after receiving petitions for reconsideration of the startup and shutdown provisions in the final MATS rule. Petitioners asserted, among other things, that the final rule's definitions of startup and shutdown were not sufficiently clear, should accommodate operation of cogeneration units, and did not

accurately reflect startup conditions for all affected units. We received additional comments on these issues during the public comment periods. For more discussion of the petitions for reconsideration and the comments on the definitions in the final rule, see the RTC in Docket ID No. EPA-HQ-OAR-2009-0234.

As a result of comments received on the November 2012 proposal and the June 2013 reopening of the public comment period, we have further revised the proposed definitions as follows.

a. Startup. The definition of startup in the November 2012 reconsideration proposed rule was similar to the definition the EPA finalized in MATS in February 2012. In this final reconsideration rule, we have maintained the final MATS definition of startup and, in addition, are finalizing an alternative definition of startup based on the November 2012 proposal and the analysis in the startup and shutdown TSD. Sources may choose to use either definition of startup when complying with the startup and shutdown requirements. We are finalizing both definitions because we believe that they both meet the requirements of CAA section 112 to reduce HAP emissions during this time period and will provide operators with flexibility, even though we question the ability to accurately measure HAP emissions at the start of electricity generation. A discussion of the comments and analyses that led to inclusion of

the alternative startup definition is provided below.

In the November 2012 reconsideration proposal, the EPA proposed that startup be defined as the period in which operation of an EGU is initiated for any purpose. The proposed definition indicated that startup begins with either the first-ever firing of fuel in an EGU for the purpose of producing electricity or useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or the firing of fuel in an EGU for any purpose after a shutdown event. The proposed definition indicated that startup ended when the EGU generates electricity that is sold or used for any other purpose (including on site use), or the EGU makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes, whichever is earlier. The agency received comments stating that the general approach provided in the proposed definition of "startup" (particularly the end of startup) was directionally correct but did not allow sufficient time for the APCDs to become effective and, thus, the industry was concerned that some EGUs would not be able to achieve the MATS emission limits finalized in the February 2012 rule at the end of startup as defined in the final MATS rule. The comments further stated the opinion that startup did not end with first generation of electricity or production of steam as the EPA had proposed. Instead, some comments suggested that the defined end

of startup should be changed to be 4 hours after 25-percent load is first reached or 12 hours after first electricity generation, whichever occurs first. Some comments stated that even longer time periods were necessary for certain types of EGUs, that different startup periods should be defined for different types of EGUs, and that additional consideration should be given to a wider variety of APCDs. Other comments maintained that the definition in the final MATS rule was appropriate and indicated that any extension of time during which the EGUs were not subject to the final rule's emission limits was not in accordance with CAA section 112.

The EPA disagrees with the commenters to the extent they maintain that a work practice is required after emissions can be accurately measured or that the agency is bound to the time contained in the final rule where, as here, we conclude that the HAP measurement methodologies are not capable of accurately measuring HAP emissions during the defined startup period. The EPA did, however, conduct an additional technical analysis after its initial review of the comments and in June 2013 published a document reopening the public comment period. The document specifically requested comment on the additional technical analysis the EPA had conducted in response to comments received concerning the end of startup. See "Assessment of startup period at coal-fired electric generating units" (Docket ID No. EPA-HQ-

OAR-2009-0234-20378). In the analysis, the EPA examined several indicators that allowed the agency to assess the time required to engage APCDs at affected EGUs. Using these indicators, we found no significant difference in performance related to startup between the different groups or types of EGUs assessed in the analysis (e.g., circulating fluidized bed (CFB), stoker, subcritical, supercritical). We further indicated that the results of our analysis supported defining the end of startup at coal- and oil-fired EGUs as occurring at the time to achieve 25 percent of the EGU's nameplate generating capacity (megawatts, MW) plus 3 hours, or the start of electricity generation plus 6 hours, whichever comes first.

The EPA has reviewed all of the comments received on the proposed definition of startup in response to these two opportunities for public comment and has revised the June 2013 analysis. Based on this review, we are finalizing a revised definition of "startup" that uses the approach outlined in the June 2013 assessment with revisions as discussed below.

Defining the End of "Startup"

The June 2013 analysis suggested a potential end time for startup of 6 hours after the start of electricity generation or 3 hours after a coal- or oil-fired EGU reaches 25 percent of nameplate capacity, whichever occurs first. In other words, 6 hours after the start of generation or 3 hours after reaching

electricity generation equal to 25 percent of nameplate capacity, whichever comes first, an EGU would have to start monitoring and reporting its emissions for the purpose of complying with the numeric emissions standards contained in MATS.

The EPA took this approach because we determined that flue gas conditions will be adequate to accurately measure HAP emissions with CEMS 4 hours after the generation of electricity. The approach evaluated the time for all APCDs to be functioning because we determined that stack conditions will be stable at this point. The analysis was based on our review of hourly SO₂ and NO_x emissions from CEMS installations from nearly 9,500 distinct startup events at more than 400 coal-fired EGUs, including CFB boilers, and subcritical and supercritical pulverized coal boilers equipped with SO₂ APCDs (e.g., wet or dry flue gas desulfurization (FGD)) and/or NO_x APCDs (e.g., selective catalytic reduction (SCR)). The EPA analyzed hourly SO₂ and NO_x emissions primarily because changes in SO₂ and NO_x emissions are reasonable indicators of when APCDs are operational and stack conditions will be sufficiently stable to allow for accurate measurement of HAP emissions with CEMS. We also note that SO₂ emissions are a surrogate for acid gases (e.g., hydrogen chloride); SO₂ APCDs can be used for co-benefit mercury (Hg) control; and NO_x SCR APCDs may increase the oxidation of Hg,

influencing the effectiveness of Hg controls.⁸ The goal of the analysis was to identify the approximate time it took, on average, to initiate operation of SO₂ and NO_x APCDs because it was those controls (e.g., scrubbers and SCR) that industry commenters stated required additional time to engage after the start of generation of electricity or useful thermal energy. The goal in conducting the analysis was not to determine the time it took for APCDs at all EGUs to become fully operational, but instead to determine the average time for the engagement of APCD to determine a reasonable end of startup.

The EPA received detailed comments on the June 2013 analysis and the proposed rule. Although commenters' opinions varied, the EPA identified three distinct groups of comments. The first group agreed with the EPA's approach to define a time limit following the start of generation, but many commenters suggested that more time was necessary to safely and/or fully engage APCDs. The second group commented that CAA section 112 requires the EPA to establish standards based on the average of the best performing 12 percent of EGUs, not the average of the fleet. The third group disagreed with the EPA's approach, stating that many APCDs could not be fully functional within the

⁸ The EPA did not include hourly PM data in this analysis because PM CEMS data are not available and PM CEMS have not yet been certified to accurately measure during periods of startup and periods of shutdown as defined in this final rule.

time limits specified by the EPA, and citing the need for greater flexibility.

The EPA evaluated the information provided by commenters and considered the different approaches to define the end of startup.⁹ After careful consideration and in light of issues raised in comments and data provided, the EPA has revised its initial approach for determining the end of startup in several respects. First, in the June 2013 analysis, we did not attempt to identify the EGUs that were the best performing sources, but instead simply looked at a category-wide average time for engagement of APCDs. As certain commenters noted, the category-wide average may not satisfy the CAA section 112(h) requirement that the EPA establish work practice standards "which in the Administrator's judgment [are] consistent with the provisions of subsections (d) or (f) of this section [112]." To more appropriately track this statutory directive, the EPA revised the analysis and identified the EGUs that were able to most

⁹ It is important to remember that the hour at which startup ends is the hour at which reporting for the purpose of determining compliance begins. Therefore, EGUs must collect and report emissions and heat input or generation data following the end of startup. These data are used in calculating whether an EGU is in compliance with the 30-day average emission limits. MATS does not mandate that all APCDs must be fully operational at the end of startup (nor does it mandate that emissions during any given hour during this period must be below the 30-day average emission limits); rather, MATS mandates only that sources comply with the MATS emission standards at that time.

quickly engage their APCDs because we determined that the best performing EGUs for purposes of defining the end of startup are those that are able to most efficiently engage their controls after the start of electricity generation. The EPA then averaged the time it took for such EGUs to bring their APCDs on line to determine a reasonable time after generation of electricity to define the end of startup. The EPA chose this approach in the final rule because we believe it most closely follows the requirements of CAA section 112.

The EPA analysis of startup events at coal-fired EGUs indicates that the best performing EGUs can, on average, initiate operation of their SO₂ and NO_x APCDs within 4 hours following the start of generation (see Technical Support Document (TSD) titled "Assessment of startup period at coal-fired electric generating units - Revised" in Docket ID No. EPA-HQ-OAR-2009-0234). In addition, the Agency is confident that stack conditions at this time are conducive for accurate measurements of HAP emissions using CEMS. For these reason, and because SO₂ can be used as a surrogate for the control of acid gases and SO₂ and NO_x APCDs can impact the control of Hg emissions, and because we believe based on comments and other information that SO₂ and NO_x controls are generally the last APCDs to be engaged, the EPA has determined that the end of startup should be defined as the end of the 4th hour following

the start of generation of electricity or useful thermal energy. The agency has also determined that it is not necessary to include any additional variability because the agency believes it has information on all of the startup events from the EGUs with the relevant data so startup time variability is fully represented in the available data.

b. Shutdown. The EPA is maintaining the definition of "shutdown" proposed in the November 2012 action, and further requiring that all APCDs must be operated as long as coal, residual oil, or solid oil-derived fuel is being fired in the EGU and as long thereafter as possible, considering safety and system integrity.

The RTC contains a summary of the comments received on this topic and the EPA's response to those comments.

2. Work Practice Standards and Clean Fuels

The final work practice for startup periods requires EGUs to initiate startup using clean fuels and to combust only clean fuels until primary fuel (e.g., coal, residual oil, or solid oil-derived fuel) is fed into the EGU, at which time the EGU must engage and operate its PM controls as soon as possible and no later than 1 hour thereafter. After engagement of PM controls, EGUs are required to maintain maximum clean fuel use until the end of startup (i.e., 4 hours after the start of generation of electricity or useful thermal energy). The maximization of clean fuel use after addition of primary fuel to

the EGU assures that the least amount of HAP possible will be emitted from the units during the startup period. The final rule also includes more fuels on the list of clean fuels that may be combusted during startup periods and shutdown periods, as discussed below.

The EPA is finalizing a requirement in the work practice that PM controls be engaged and operated within 1 hour of coal, residual oil, or solid oil-derived fuel being fired. In the November 2012 proposal, the EPA proposed to require that once an EGU starts firing coal, residual oil, or solid oil-derived fuel, all of the applicable control devices had to be engaged, with certain listed exceptions. PM-specific control devices were not included in that list of excepted controls because the EPA believed that PM controls on EGUs could be engaged (i.e., operational) at the best performing EGUs at the time the primary fuel (i.e., coal, residual oil, or solid oil-derived fuel) is fired. The EPA has reviewed both the record and the comments received, and we have determined that the EGUs that are able to engage PM controls (through either use of PM-specific controls (e.g., ESP, FF) or wet FGD scrubber system alone or in conjunction with PM controls) within 1 hour following the initiation of firing of coal, residual oil, or solid oil-derived fuel are the best performing sources for purposes of minimizing

particulate HAP emissions during startup periods.¹⁰ Therefore, we are finalizing a requirement that an owner/operator must engage and operate the PM controls within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel.

Moreover, in order to demonstrate an EGU's capacity to maximize the use of clean fuels during startup periods and its ability to bring PM control devices online in an expeditious manner following first firing of coal, residual oil, or solid oil-derived fuel, the rule now requires EGU owners or operators to determine and report each EGU's maximum storage capacity for clean fuels and maximum capacity for heat input while combusting clean fuels alone. The rule also requires EGU owners or operators to identify, record, and report semiannually each instance of startup or shutdown, specifying the dates and times that clean fuel use begins and ends; the dates and times that primary (i.e., coal or oil) fuel use starts or ends; and the hourly clean fuel usage, heat input, and electrical output.

In addition, for those non-liquid oil-fired EGUs not using PM CEMS, HAP metals CEMS, or PM continuous parameter monitoring system (CPMS) as a compliance determination method or not meeting low emitting EGU (LEE) status¹¹ for PM or non-mercury HAP

¹⁰ Docket ID Nos. EPA-HQ-OAR-2009-0234-20269, EPA-HQ-OAR-2009-0234-20275.

¹¹ See 40 CFR 63.10005(h).

metals emissions or those liquid oil-fired EGUs not using PM CEMS or PM CPMS as a compliance determination method or not meeting LEE status for PM or HAP metals emissions, parametric monitoring data will be required to help show PM control device effectiveness upon first use of coal, residual oil, or solid oil-derived fuel. This type of data is not required from EGUs using PM CEMS, HAP metals CEMS, or PM CPMS, as those instruments are already required to provide these data during startup periods; those data are suitable for assessing how soon and how well PM control devices are operating. Likewise, once EGUs meet the LEE status for PM or non-mercury HAP metals emissions for non-liquid oil-fired EGUs (or HAP metals emissions for liquid oil-fired EGUs), they will no longer need to supply additional information regarding PM control device operation during startup periods, for it is reasonable to expect their PM control devices to be properly sized and operated in order to demonstrate consistent operation at less than 50 percent of the emissions limit over a 3-year period. It is also reasonable to expect that the information recorded and calculated during startup periods and shutdown periods from LEE-eligible EGUs will show better emissions performance when compared to similar information obtained from EGUs without LEE status.

Upon initiation of first use of coal, residual oil, or solid oil-derived fuel, EGUs not using PM CEMS or PM CPMS as a

compliance determination method or not meeting LEE status for PM or non-mercury HAP metals emissions for non-liquid oil-fired EGUs (or HAP metals emissions for liquid oil-fired EGUs) are also required to record hourly and report semi-annually the pre- and post-PM control device flow rates and temperatures, as well as fan amps. Moreover, the PM control device-specific parameters are required to be recorded hourly and reported semi-annually. The EGUs with ESPs are required to record the number of fields in service and the secondary current and voltage for each hour of startup and shutdown. The EGUs with FFs are required to record the number of compartments in service and the differential pressure across the baghouse. Finally, the EGUs with wet scrubbers that are necessary for filterable PM emission control will record scrubber liquid-to-flue gas ratios and scrubber liquid differential pressure for each hour of startup and shutdown.

Given that we do not have much information concerning continuous PM emissions or PM emission control devices during periods of startup, the final rule requires owners or operators of EGUs that choose to use definition (2) of "startup" contained in 40 CFR 63.10042 to provide a report prepared by an independent professional engineer that describes the EGU, PM emissions, and PM emissions control devices both as designed and in their current form. This information will show how each EGU

is able, or has been modified, to meet the requirements of this rule. In addition, the information will specify the time needed to engage PM emission control devices from initial fuel combustion in the EGU; the effectiveness of each PM emission control device, both upon control device startup and at normal operation; the PM emission rate; and the uncontrolled PM emissions rate. The report will be submitted as part of the EGU's Notification of Compliance Status, and the information contained in the report will aid us in determining whether or not additional work practice requirements may be needed during startup periods to minimize HAP emissions.

Finally, the EPA acknowledges the comments asserting safety issues that must be considered during startup of PM controls (e.g., carbon monoxide buildup, fabric blinding). We believe that almost all EGUs will be able to alter their source through any number of means, including increasing clean fuel capacity and modifying APCD operation, and comply with the final work practice requirements; however, we recognize that there may be rare occasions that preclude a viable compliance option consistent with the final rule. Therefore, we are finalizing that an owner/operator may submit to the Administrator a request for an EGU-specific case-by-case emission standard consistent with 40 CFR 63.6(g). Such a request requires notice-and-comment rulemaking. Approval or disapproval authority for this type of request is delegated to the Assistant Administrator of the

Office of Air and Radiation, and, for purposes of this rule, will be delegated no further.¹² However, the EPA will only consider requests that provide evidence of a documented manufacturer-identified safety issue and can provide proof that the PM control device is adequately designed and sized to meet the final PM emission limit. As identified in 40 CFR 63.10011(g)(4), in its request for the case-by-case determination, the owner/operator must provide, among other materials, documentation that: (1) the EGU is using clean fuels to the maximum extent possible to bring the EGU and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel in the EGU, (2) the EGU has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue, (3) the source provides details of the manufacturer's statement of concern, and (4) the source provides evidence that the PM control device is adequately designed and sized to meet the final PM emission limit. In addition, the source will have to indicate the other measures it will take to limit HAP emissions during startup periods and shutdown periods

¹² See Delegation 7-121 and *Delegation of Authority under the Clean Air Act to Approve Alternatives to Test Methods and Procedures in Parts 60, 61, 63, and 65*, from Gina McCarthy to Stephen Page, September 30, 2011, in docket ID EPA-HQ-OAR-2009-0234.

to ensure a control level consistent with the final work practice requirements. In order to ensure compliance with the work practice standards during startup periods, EGU owners or operators who request an alternative non-opacity emission standard shall comply with definition (1) of startup contained in 40 CFR 63.10042 (i.e., the definition contained in the final rule promulgated on February 12, 2012)¹³ until the final alternative non-opacity emission standard is promulgated in the Federal Register.

We also proposed several revisions to the work practice standards issued in the final MATS rule in response to petitions on the final rule. Petitioners asserted that the final rule's work practice standards should include additional fuels as "clean fuels" and recognize operating limitations of certain EGU types and APCDs. Specifically, petitioners contended that the list of clean fuels required for use during startup in order to minimize emissions should include, among others, synthetic natural gas, synthesis gas (syngas), biodiesel, and ultra-low sulfur diesel (ULSD). The EPA has also been informed that propane is used to startup some EGUs.

In this final action, we are adding certain synthetic natural gas (that meets the specification necessary for that gas

¹³ See 77 FR 9303; February 16, 2012.

to be transported on a Federal Energy Regulatory Commission (FERC) regulated pipeline), synthesis gas that has been processed through a gas clean-up train such that it is suitable for use in the system's combustion turbine, and ULSD to the list of clean fuels. In addition, the EPA does see merit, as suggested by some commenters, of further broadening the definition of "clean fuels." After reviewing other rules that use or require clean fuels, we believe that inclusion of those fuels meeting the requirements of 40 CFR Part 80, subpart I ("Subpart I—Motor Vehicle Diesel Fuel; Nonroad, Locomotive, and Marine Diesel Fuel; and ECA Marine Fuel") is appropriate. Specifically, the definitions and provisions of 40 CFR 80.2, 80.501, 80.510, and 80.520 address sulfur content restrictions relating to distillate, diesel (including ULSD), and biodiesel fuels. The EPA believes that requiring use of clean fuels, including those we are adding in this final rule, for EGUs will significantly limit the HAP emissions from these sources during startup periods and shutdown periods. For example, information provided to the EPA on another rulemaking (found in Docket ID No. EPA-HQ-OAR-2008-0708-1459)¹⁴ showed that the use of ULSD will significantly reduce emissions of air toxics, including metallic HAP (e.g., nickel, zinc, lead (Pb)) compared to the use of

¹⁴ Email and attachments from Paul Miller, NESCAUM, to Melanie King, EPA. NESCAUM's RICE NESHAP comments. October 11, 2012, also found in Docket ID No. EPA-HQ-OAR-2009-0234.

"regular" diesel. The EPA also believes that combustion of the other 40 CFR Part 80, subpart I, fuels meeting the subject definitions will cause significantly lower HAP emissions than coal and residual oil, and, as stated above, EGUs must use clean fuels to the maximum extent possible during startup periods and shutdown periods.

We are maintaining the work practice requirement in the final MATS that requires EGU source owners and operators, when firing coal, residual oil, or solid oil-derived fuel in the EGU during startup or shutdown, to vent emissions to the main stack(s) and operate all control devices necessary to meet all operating and emissions standards that are applicable to the source pursuant to other CAA or state requirements. In addition, any partial (fractional) operating hour that may occur at the beginning of a startup period or at the end of a shutdown period is to be flagged in reports as an hour of startup or shutdown.

For more discussion of each of these issues, please refer to the RTC, the TSD, and the memo "Startup and shutdown provisions" (Docket ID No. EPA-HQ-OAR-2009-0234-20224) in Docket ID No. EPA-HQ-OAR-2009-0234.

3. Treatment of IGCC EGU Syngas

The EPA is finalizing both the use of flares and the use of duct burners for integrated gasification combined cycle (IGCC) units to handle syngas not combusted in the turbine during

startup periods and shutdown periods.

An IGCC EGU includes both a gasification unit and a combustion unit and syngas is generated in the gasifier for the primary purpose of being combusted in the associated combustion turbine. The EPA understands that, in some cases, the gasified fuel can be used for other purposes such as the production of chemicals (e.g., fertilizers, methanol) if the facility has been designed to do so. During the startup periods and shutdown periods, some or all of the syngas produced for the purpose of power production may not be combusted in the turbine. We proposed two options for IGCC EGUs for handling syngas not fired in the combustion turbine: (1) syngas must be flared, not vented, or (2) syngas must be routed to duct burners, which may need to be installed, and the flue gas from the duct burners must be routed to the heat recovery steam generator. We solicited comments on the need to flare the unfired syngas, if it is more appropriate to require routing of the unfired syngas back into the system for all IGCC EGUs, and on the costs of adding duct burners, should they be required.

Industry commenters stated that it is important that flaring remain an option for routine startups and shutdowns for safety reasons and as a viable option for non-routine events such as EGU "trips" when the combustion turbine cannot combust syngas. Commenters noted that the flaring option is especially

critical as the re-routing option can only be used by IGCC EGUs under limited circumstances as the syngas may lack sufficient pressure for re-injection and gasifiers are often once-through systems that do not support re-routing of the syngas. Commenters indicated that the actual flaring step of an IGCC startup is relatively short and ordinarily lasts less than 2 hours and that only clean syngas is flared during a routine startup.

The EPA is finalizing both options, use of flaring or duct burners, for handling of syngas not combusted in the turbine during startup periods and shutdown periods.¹⁵ The EPA believes that the controls are comparable and that allowing the option will provide flexibility to owners/operators of IGCC EGUs to choose either of the options subject to operational constraints at their IGCC EGUs. The EPA believes it appropriate to cover gasifier syngas during startup periods and shutdown periods of the combustion turbine portion of the IGCC because the units are inextricably linked and the unused gas would not be generated but for the startup of the combustion portion of the IGCC unit. The EPA is requiring the use of either flares or duct burners to combust unused syngas during startup periods and shutdown periods.

¹⁵ IGCC units that are also designed to co-produce chemicals or other products using syngas may also choose to use the unburned syngas in that process.

4. Common Stacks

The final MATS rule at 40 CFR 63.10010(a)(1), (2), and (3) required owners or operators of EGUs with common stacks to either monitor the EGUs separately or monitor the common stack and assign the same emissions value to each EGU. No specific requirements concerning monitoring during startup periods or shutdown periods were given because the EPA believed the provisions as finalized were sufficient. Consistent with the monitoring provisions in the final rule, owners or operators of EGUs with common stacks are required to monitor and report emissions for compliance purposes at all times when any EGU using a common stack is operating in a non-startup/shutdown mode, even if another EGU using that common stack is in startup/shutdown mode. 40 CFR 63.10005(a)(2)(iii) reinforces and clarifies this requirement. Also, consistent with the final rule, work practice standards, rather than numeric emissions limits, apply during startup periods or shutdown periods, but only to EGUs in startup or shutdown mode. Today's reconsidered rule maintains the approach of the final rule. Owners or operators of EGUs with common stacks may either monitor each EGU separately upstream of the common stack or from the common stack. Monitoring must be operational (except for periods of monitor malfunction and during required quality assurance (QA) and maintenance activities) at all times that any fuel is being

combusted, and compliance with numeric emission limits is required except for periods when all EGUs sharing the common stack are in startup or shutdown mode. Should an owner or operator choose to monitor the common stack, then emissions obtained from the monitoring will be applied to each EGU that shares the stack. This approach remains consistent with the final rule, and is not expected to be problematic emissions-wise for any EGU using a common stack, because the EGUs in startup periods or shutdown periods are required to use clean fuels and comply with the other work practice requirements. In addition, the EGUs sharing the common stack and operating in a mode other than startup or shutdown are required to operate such that they meet their emissions limits. We believe, based on evaluation of source compliance for many years, that sources generally operate in a manner to ensure a compliance margin to avoid potential exceedances.¹⁶ Thus, we maintain the monitoring options available in the final rule are sufficient to address concerns from commenters.

As discussed below, the EPA is also establishing a default electrical load of 5 percent of the maximum sustainable

¹⁶ "... (S)ources do not design to meet a standard, but rather to meet a level comfortably lower. They do so in order to provide a compliance margin on those days where emissions rise due to inherent and uncontrollable variability..." See 77 FR 42386; July 18, 2012.

electrical load of the EGU. This default value will be allowed to be used during periods of startup or periods of shutdown when the electrical load is zero. For EGUs sharing a common stack with just one common monitoring system, this default value will be available only when the electrical load is zero for an EGU sharing the common stack that is in a period of startup or shutdown. As soon as a non-zero electrical load is produced, that non-zero load must be used in electrical output-based emission rate calculations for each EGU in a startup or shutdown period, even if the load is less than 5 percent of capacity. Note that the electrical load of all EGUs in operation and sharing a common stack with just one common monitoring system are to be summed when electrical output-based emission rate calculations are made.

Section 1.2.5 of the RTC contains both a summary of comments received on this topic and the EPA's response to those comments.

5. Diluent Cap

Apart from allowing use of a diluent cap when calculating Hg emissions during startup periods or shutdown periods, the final rule contained no allowance for use of a diluent cap. The November 2012 proposal sought comment on the need for a diluent cap for other HAP emissions during startup periods and shutdown periods. Use of a diluent cap can be important during startup

periods and shutdown periods because CEMS values can approach infinity because the denominator in the calculations for CEMS values can approach zero during those periods. Moreover, use of a diluent cap becomes a common stack issue when one or more of the EGUs is in a startup or shutdown mode and just one monitoring instrument is used in the stack.

The EPA considered each comment and decided to allow use of default carbon dioxide (CO₂) or oxygen (O₂) values as identified in Section 3.3.4.1 of Appendix F of 40 CFR part 75, but only for startup periods or shutdown periods when CO₂ values are below or O₂ values are above default values for use in all pollutant calculations. For non-IGCC EGUs, the default CO₂ value is 5 percent and the default O₂ value is 14 percent. This means that when CEMS CO₂ measurements are below 5 percent, EGU owners or operators are allowed to use 5 percent CO₂ in their calculations. Because the startup analysis showed that CEMS CO₂ measurements exceeded default values within 2 hours of generation, the EPA does not expect to find default values being used when startup periods end. Likewise, when CEMS O₂ measurements are larger than 14 percent, EGU owners or operators will be able to use 14-percent O₂ in their calculations. IGCC EGUs will be allowed to use 1 percent as a default CO₂ value or 19 percent as a default O₂ value. As mentioned earlier, default diluent gas values will be allowed for use in calculations for startup periods or

shutdown periods when CO₂ CEMS values are below or O₂ CEMS values are above default values. The rule requires EGU owners or operators to use actual CO₂ or O₂ CEMS values for all other operating periods. Although the EPA has no specific data or information concerning emissions during transient events outside startup or shutdown periods, the EPA expects the short duration of these transient events outside startup or shutdown periods that could cause CO₂ or O₂ CEMS to be below (or above) default values to have little, if any, impact on the 30-boiler operating day rolling averages.

The rule retains the requirement for EGU owners or operators to report instrumental CEMS, PM CPMS, and sorbent trap information, as well as flow rate information during startup periods or shutdown periods. Such information may prove useful in assessing potential emissions or operational limits in future rulemaking activities. Finally, the rule requires EGU owners or operators to identify each hour of startup or shutdown in which a diluent cap value is used.

Section 5.1 of the RTC contains both a summary of comments received on this topic and the EPA's response.

6. Default Electrical Output

The final rule provided no allowance regarding default electrical output. The November 2012 proposal sought comment on the need for a default electrical output for those owners or

operators who choose to comply with a mass per electrical output standard. Use of a default electrical output cap can be important during startup periods and shutdown periods because the calculated mass per electrical output values can approach infinity when the electrical output is zero during those periods.

Upon consideration of the comments, the rule will provide a default electrical load value that EGU owners or operators will be allowed to use during startup periods or shutdown periods to calculate emissions rates for an EGU, as long as the electrical load for the EGU is zero. Once the EGU begins generating electricity, the source must use the actual electrical output in compliance calculations, even if the output is below the 5 percent default value. Moreover, use of a default electrical load is not allowed during periods other than startup or shutdown. As suggested by one commenter, the default electrical load will be equivalent to 5 percent of the maximum sustainable electrical output in megawatts of an EGU, as defined in section 6.5.2.1(a)(1) of appendix A to part 75, and included in an EGU's Part 75 electronic monitoring plan. This maximum sustainable load is either the nameplate capacity of the EGU or the highest electrical load observed in at least four representative quarters of EGU operation. When used in a common stack application, the default electrical load is 5 percent of the

combined maximum sustainable electrical load of the EGUs that are in startup or shutdown mode during an hour in which the electrical load is zero. The default electrical load is allowed to be used in electrical output-based emission rate calculations (either pounds per megawatt-hour (lb/MWh) or pounds per gigawatt-hour (lb/GWh)) for any hour in which the actual electrical load for a single EGU or for every EGU venting to a common stack is zero. The EPA considered, but decided against, requiring measurement of thermal heat output and conversion back into equivalent electrical output; instead, the EPA decided to use a simpler approach based on already-existing requirements of the Acid Rain Program that we believe are most appropriate considering CAA section 112 and in light of the available data. Finally, the rule requires EGU owners or operators to identify each hour of startup or shutdown in which a default electrical load value is used.

Section 5.2 of the RTC contains both a summary of comments received on this topic and the EPA's response to significant comments.

7. Use of Sorbent Traps

The final rule required continuous Hg data collection using sorbent traps or Hg CEMS under all process operating conditions, including, but not limited to, startup periods and shutdown periods, over the entire 30 boiler operating day LEE

qualification testing period. For sorbent traps, the EPA allowed use of redundant backup sorbent trap monitoring systems during startup periods and shutdown periods; and required operation of sorbent trap monitoring systems and collection of Hg data at all times EGUs operate, but did not allow use of Hg data collected during startup or shutdown periods to be included in compliance calculations.

After consideration of comments received on Hg monitoring during startup or shutdown periods using sorbent trap monitoring systems, the EPA decided that the final reconsidered rule will contain three alternative approaches for measuring Hg emissions during startup periods or shutdown periods. In the first approach, EGU owners or operators will continue to be able to use Hg CEMS for measuring Hg emissions.

The second approach relies on at least two separate sorbent monitoring systems. Although the rule has no prohibition against an EGU owner or operator using one sorbent trap monitoring system for compliance purposes during periods other than startup or shutdown and one (or more) sorbent trap monitoring systems for startup periods or shutdown periods through the use of a non-redundant backup system (per section 2.2.2 of Appendix A to subpart UUUUU of Part 63), it will be clarified that two separate sorbent monitoring systems are allowed. Reliance on this second approach would address one commenter's concern that

Hg compliance data could not be separated from Hg data collected during startup and/or shutdown periods when demonstrating compliance with numerical standards based on a sorbent trap system. When an EGU with at least two such systems (one for startup periods or shutdown periods and the other for all other periods) entered into a startup or shutdown period, the EGU owner or operator could switch monitoring systems either manually or automatically. As part of an EGU owner or operator's rubric for choosing which Hg measurement approach to use, the EGU owner or operator should take into account that any process operating hour for which quality assured Hg concentration data are not obtained is counted as an hour of monitoring system downtime, per section 1.4 of Appendix A to subpart UUUUU of Part 63. Therefore, if an EGU owner or operator believes change-out of sorbent monitoring traps may take too long, other approaches may be more suitable. An EGU owner or operator should carefully consider all costs - not only of sorbent tubes, analyses, and associated labor, but also of non-compliance due to data gaps, when determining whether this approach is appropriate.

The third approach, relying on just one sorbent trap monitoring system for all periods of operation (startup, shutdown, and normal), will be identified in the rule as a viable option for Hg monitoring, and, for EGU owners or operators who choose this option, the rule will allow data

collected during startup or shutdown periods to be used for compliance purposes. The EPA expects little impact on Hg emissions during startup or shutdown periods, because, as explained above, we believe the rule contains sufficient variability to include startup and shutdown periods; clean fuels will be used during those periods; default diluent and electrical output values, which tend to constrain emissions, will be available for use; and emissions occurring during those periods will be included in a 30- (or 90-) boiler operating day rolling average. EGU owners or operators may find that this third approach would work well for those instances in which sudden and unpredictable shutdown events occur, for there would be no need to swap sorbent trap monitoring systems to capture shutdown emissions.

Finally, the EPA disagrees with commenters who claim that collecting data during startup and shutdown will serve no purpose relative to compliance with MATS and indicated that if the EPA needs to collect startup and shutdown data to better understand performance for a future rulemaking, that can be addressed through the information collection request (ICR) process where the EPA demonstrates the need and identifies a systematic plan to gather the data. As explained in the final

rule preamble,¹⁷ collection of startup and shutdown information will provide the EPA with information to more fully analyze the ability and appropriateness of establishing numeric emissions and operating limits during startup periods or shutdown periods so the issue can be addressed as part of the ongoing 8-year review of this rule. Collection of these data as part of the rule will also serve to reduce, if not eliminate, future ICR requests on this topic. The EPA also disagrees with commenters who wish to place all startup and shutdown information on those EGU owners or operators who choose to use Hg CEMS, for EPA remains interested in how well sorbent tube monitoring systems operate during startup periods or shutdown periods. Not collecting that information from those systems would leave a gap in the EPA's knowledge base.

Section 5.3 of the RTC contains both a summary of comments received on this topic and the EPA's response to significant comments.

V. Summary of Final Action and Changes since Proposal - Utility NSPS

The current PM startup and shutdown requirements in the Utility NSPS are included in 40 CFR 60.42Da(e)(2) and require the owner/operator of an affected EGU to meet the work practice

¹⁷ See 77 FR 9382 (February 16, 2012).

standards specified in Table 3 of 40 CFR Part 63, subpart UUUUU (i.e., the MATS rule). The Utility NSPS docket received a total of 23 public comments on the startup/shutdown reconsideration proposal. One of these comments was a duplicate. Of the remaining 22 comments, 15 were received in both dockets, and 7 were received in the Utility NSPS docket alone. Of the seven comments received in the Utility NSPS docket alone, four were said to be sent to the MATS docket, but no documents that matched the ones in the Utility NSPS docket were found in the MATS docket. However, the majority of the comments overlap with issues raised as part of the startup and shutdown provision included in MATS. The EPA responses to these issues are discussed in the MATS portion of the preamble and docket and have not been repeated here or in the Utility NSPS docket.

The sole NSPS-specific comment we received was that the Utility NSPS should include a definition of startup and shutdown that is consistent with the MATS definition and that the definitions of startup and shutdown in the Utility NSPS, MATS, and Industrial Boiler NESHAP (subpart DDDDD) rules should be consistent. There are situations where a facility is subject to the PM standard under 40 CFR Part 60, subpart Da, but is not subject to MATS (e.g., a biomass-fired EGU with natural gas burners > 250 million British thermal units per hour). This facility would, therefore, be subject to the Industrial Boiler

NESHAP. We have concluded that it is appropriate for industrial boilers and EGUs to have the same PM startup and shutdown work practice standards for both the NSPS and MATS. Therefore, we are amending 40 CFR 60.42Da(e)(2) so that owners or operators of facilities subject to 40 CFR Part 63, subpart UUUUU, shall meet the work practice standards specified in Table 3 to Subpart UUUUU of Part 63, and owners or operators of facilities subject to 40 CFR Part 63, subpart DDDDD, shall meet the work practice standards specified in Table 3 to Subpart DDDDD of Part 63.

We are also amending the regulatory text in the Utility NSPS to incorporate the relevant startup and shutdown definitions. We have concluded that the amended regulatory text is sufficient, and adding definitions of startup and shutdown are not necessary for the Utility NSPS. Using this approach is beneficial because any future amendments to the MATS startup and shutdown provisions will automatically be incorporated into the Utility NSPS.

VI. Impacts of this Final Rule

A. Summary of Emissions Impacts, Costs and Benefits

Because this final rule is no more stringent than the February 2012 final rule, we expect no additional costs or benefits associated with these revisions.

B. What are the air impacts?

This final rule is no more stringent than the February 2012

final rule. Accordingly, we believe that this final action will not result in significant changes in emissions of any of the regulated pollutants.

C. What are the energy impacts?

This final action is not anticipated to have an effect on the supply, distribution, or use of energy. As previously stated, this final rule is no more stringent than the February 2012 final rule.

D. What are the compliance costs?

We believe there will be no significant change in compliance costs as a result of this final action because electric power companies would take the same or similar actions (e.g., operating control devices, recording clean fuel use, etc.) as they would have to comply with the previously finalized MATS standards. Moreover, we find no additional monitoring costs are necessary to comply with this final action because EGU owners or operators could continue to use the startup and shutdown provisions of the promulgated rule to demonstrate compliance; however, as in any other rule, EGU owners or operators may choose to conduct additional monitoring (and incur its expense) for their own purposes.

E. What are the economic and employment impacts?

Because we expect that electric power companies would take the same or similar actions to meet the requirements finalized

in this action as they would have chosen to comply with the previously finalized MATS standards, we do not anticipate that this final action will result in significant changes in emissions, energy impacts, costs, benefits, or economic impacts. Likewise, we believe this action will not have any impacts on the price of electricity, employment or labor markets, or the U.S. economy.

F. What are the benefits of the final standards?

As previously stated, we do not anticipate any significant emission changes resulting from this action. Therefore, there are no direct monetized benefits or disbenefits associated with this action.

VII. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a "significant regulatory action" under the terms of Executive Order 12866 (58 FR 51735; October 4, 1993) and is, therefore not subject to review under Executive Orders 12866 and 13563 (76 FR 3821; January 21, 2011).

Because this final rule is no more stringent than the February 2012 final rule, we do not expect any additional costs, benefits, or economic impacts associated with these revisions. The EPA prepared an analysis of the potential costs and benefits

associated with the 2012 final rule. This analysis is contained in the "Economic Impact Analysis for the Final Reconsideration of the Mercury and Air Toxics Standards" found in Docket ID No. EPA-HQ-OAR-2009-0234.

B. Paperwork Reduction Act

This action does not impose any new information collection burden. This action clarifies but does not change the information collection requirements previously finalized and, as a result, does not impose any additional burden on industry. However, the Office of Management and Budget (OMB) has previously approved the information collection requirements contained in the existing regulations (see 77 FR 9304) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and has assigned OMB control number 2060-0567. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and

small governmental jurisdictions.

For purposes of assessing the impacts of this action on small entities, a small entity is defined as: (1) a small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. Categories and entities potentially regulated by the final rule with applicable NAICS codes are provided in section I.A of this preamble.

According to the SBA size standards for NAICS code 221122, Utilities-Fossil Fuel Electric Power Generation, a firm is small if, including its affiliates, it is primarily engaged in the generation, transmission, and/or distribution of electric energy for sale and its total electric output for the preceding fiscal year did not exceed 4 million MWh.

After considering the economic impacts of this final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities.

The EPA has determined that none of the small entities will experience a significant impact because the action imposes no

additional regulatory requirements on owners or operators of affected sources.

D. Unfunded Mandates Reform Act

This action contains no federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531-1538 for state, local, or tribal governments or the private sector. The action imposes no enforceable duty on any state, local, or tribal governments or the private sector. Therefore, this action is not subject to the requirements of UMRA sections 202 or 205.

This action is also not subject to the requirements of UMRA section 203 because it contains no regulatory requirements that might significantly or uniquely affect small governments. This action contains no requirements that apply to such governments or impose obligations upon them.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. Thus, Executive Order 13132 does not apply to this action.

F. Executive Order 13175: Consultation and Coordination with

Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175 (65 FR 67249; November 9, 2000). It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. No affected facilities are owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 (62 FR 19885; April 23, 1997) because it is not economically significant as defined in Executive Order 12866. The EPA has evaluated the environmental health or safety effects of the final MATS on children. The results of the evaluation are discussed in that final rule (77 FR 9304; February 16, 2012) and are contained in Docket ID No. EPA-HQ-OAR-2009-0234.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355; May 22, 2001) because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA); Public Law No. 104-113, 12(d) (15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards (VCS) in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impracticable. VCS are technical standards (e.g., material specifications, test methods, sampling procedures, and business practices) that are developed or adopted by VCS bodies. The NTTAA requires the EPA to provide Congress, through OMB, explanations when the agency decides not to use available and applicable VCS.

This action does not involve VCS. Therefore, the EPA did not consider the use of any VCS.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations

Executive Order 12898 (59 FR 7629; February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and

activities on minority populations and low-income populations in the United States.

The EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations because it does not affect the level of protection provided to human health or the environment. The EPA has evaluated the environmental health or environmental effects of the final MATS on minority, low-income, or indigenous populations. The results of the evaluation are discussed in that final rule (77 FR 9304; February 16, 2012) and are contained in Docket ID No. EPA-HQ-OAR-2009-0234.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this final rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is

published in the Federal Register. This action is not a "major rule" as defined by 5 U.S.C. 804(2). This final rule will be effective on **[insert the date of publication in the Federal Register]**.

List of Subjects

40 CFR Part 60

Environmental protection, Administrative practice and procedure, Air pollution control, Intergovernmental relations, Reporting and recordkeeping requirements.

40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: November 7, 2014.

Gina McCarthy,
Administrator.

For the reasons discussed in the preamble, the EPA amends 40 CFR parts 60 and 63 to read as follows:

PART 60--STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

1. The authority citation for 40 CFR part 60 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

2. Section 60.42Da is amended by revising paragraph (e)(2) to read as follows:

§60.42Da Standards for particulate matter (PM).

* * * * *

(e) * * *

(2) During startup periods and shutdown periods, owners or operators of facilities subject to subpart UUUUU of part 63 of this chapter shall meet the work practice standards specified in Table 3 to subpart UUUUU of part 63 and use the relevant definitions in §63.10042, and owners or operators of facilities subject to subpart DDDDD of part 63 shall meet the work practice standards specified in Table 3 to subpart DDDDD of part 63 and use the relevant definition used in §63.7575.

* * * * *

**PART 63--NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
FOR SOURCE CATEGORIES**

3. The authority citation for 40 CFR part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

4. Section 63.10000 is amended by revising paragraph (c)(1)(vi) and adding paragraph (1) to read as follows:

§63.10000 What are my general requirements for complying with this subpart?

* * * * *

(c)(1)* * *

(vi) If your coal-fired or solid oil-derived fuel-fired EGU does not qualify as a LEE for Hg, you must demonstrate initial and continuous compliance through use of a Hg CEMS or a sorbent trap monitoring system, in accordance with appendix A to this subpart.

(A) You may choose to use separate sorbent trap monitoring systems to comply with this subpart: one sorbent trap monitoring system to demonstrate compliance with the numeric mercury emissions limit during periods other than startup or shutdown and the other sorbent trap monitoring system to report average mercury concentration during startup periods or shutdown periods.

(B) You may choose to use one sorbent trap monitoring system to demonstrate compliance with the mercury emissions limit at all times (including startup periods and shutdown periods) and to report average mercury concentration. You must follow the startup or shutdown requirements that follow and as given in

Table 3 to this subpart for each coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGU.

* * * * *

(1) On or before the date an EGU is subject to this subpart, you must install, certify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the work practice standards for PM or non-mercury HAP metals during startup periods and shutdown periods. You must collect, record, report, and maintain data obtained from these monitoring systems during startup periods and shutdown periods.

5. Section 63.10005 is amended by revising paragraph (a)(2) to read as follows:

§63.10005 What are my initial compliance requirements and by what date must I conduct them?

(a) * * *

(2) To demonstrate initial compliance using either a CMS that measures HAP concentrations directly (*i.e.*, an Hg, HCl, or HF CEMS, or a sorbent trap monitoring system) or an SO₂ or PM CEMS, the initial performance test consists of 30- (or, if emissions averaging for Hg is used, 90-) boiler operating days of data collected by the initial compliance demonstration date specified in §63.9984(f) with the certified monitoring system. Pollutant emission rates measured during startup periods and shutdown period (as defined in §63.10042) are not to be included in the

compliance demonstration, except as otherwise provided in §63.10000(c)(1)(vi)(B) and paragraph (a)(2)(iii) of this section.

(i) The 30- (or, if applicable, 90-) boiler operating day CMS performance test must demonstrate compliance with the applicable Hg, HCl, HF, PM, or SO₂ emissions limit in Table 1 or 2 to this subpart.

(ii) You must collect hourly data from auxiliary monitoring systems (i.e., stack gas flow rate, CO₂, O₂, or moisture, as applicable) during the performance test period, in order to convert the pollutant concentrations to units of the standard. If you choose to comply with an electrical output-based emission limit, you must also collect hourly electrical load data during the performance test period.

(iii) For a group of affected units that are in the same subcategory, are subject to the same emission standards, and share a common stack, if you elect to demonstrate compliance by monitoring emissions at the common stack, startup and shutdown emissions (if any) that occur during the 30-(or, if applicable, 90-) boiler operating day performance test must either be excluded from or included in the compliance demonstration as follows:

(A) If one of the units that shares the stack either starts up or shuts down at a time when none of the other units is

operating, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations;

(B) If all units that are currently operating are in the startup or shutdown mode, you must exclude all pollutant emission rates measured during the startup or shutdown period, unless you are using a sorbent trap monitoring system to measure Hg emissions and have elected to include startup and shutdown emissions in the compliance demonstrations; or

(C) If any unit starts up or shuts down at a time when another unit is operating, and the other unit is not in the startup or shutdown mode, you must include all pollutant emission rates measured during the startup or shutdown period in the compliance demonstrations.

* * * * *

6. Section 63.10007 is amended by revising paragraph (a)(1), redesignating paragraph (f) as paragraph (g), and adding a new paragraph (f) to read as follows:

§63.10007 What methods and other procedures must I use for the performance tests?

(a) * * *

(1) If you use CEMS (Hg, HCl, SO₂, or other) to determine compliance with a 30- (or, if applicable, 90-) boiler operating day rolling average emission limit, you must collect quality-assured CEMS data for all unit operating conditions, including startup and shutdown (see §63.10011(g) and Table 3 to this subpart), except as otherwise provided in §63.10020(b). Emission rates determined during startup periods and shutdown periods (as defined in §63.10042) are not to be included in the compliance determinations, except as otherwise provided in §§63.10000(c)(1)(vi)(B) and 63.10005(a)(2)(iii).

* * * * *

(f) If you elect to (or are required to) use CEMS to continuously monitor Hg, HCl, HF, SO₂, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default values are available for use in the emission rate calculations during startup periods or shutdown periods (as defined in §63.10042). For the purposes of this subpart, these default values are not considered to be substitute data.

(1) Diluent cap values. If you use CEMS (or, if applicable, sorbent trap monitoring systems) to comply with a heat input-based emission rate limit, you may use the following diluent cap values for a startup or shutdown hour in which the measured CO₂ concentration is below the cap value or the measured O₂

concentration is above the cap value:

- (i) For an IGCC EGU, you may use 1% for CO₂ or 19% for O₂.
- (ii) For all other EGUs, you may use 5% for CO₂ or 14% for O₂.

(2) Default electrical load. If you use CEMS to continuously monitor Hg, HCl, HF, SO₂, or PM emissions (or, if applicable, sorbent trap monitoring systems to continuously collect Hg emissions data), the following default value is available for use in the emission rate calculations during startup periods or shutdown periods (as defined in §63.10042). For the purposes of this subpart, this default value is not considered to be substitute data. For a startup or shutdown hour in which there is heat input to an affected EGU but zero electrical load, you must calculate the pollutant emission rate using a value equivalent to 5% of the maximum sustainable electrical output, expressed in megawatts, as defined in section 6.5.2.1(a)(1) of Appendix A to part 75 of this chapter. This default electrical load is either the nameplate capacity of the EGU or the highest electrical load observed in at least four representative quarters of EGU operation. For a monitored common stack, the default electrical load is used only when all EGUs are operating (i.e., combusting fuel) are in startup or shutdown mode, and have zero electrical generation. Under those conditions, a default electrical load equal to 5% of the combined maximum sustainable electrical load of the EGUs that are operating but

have a total of zero electrical load must be used to calculate the hourly electrical output-based pollutant emissions rate.

* * * * *

7. Section 63.10010 is amended by revising paragraph (f)(4) and adding paragraph (1) to read as follows:

§63.10010 What are my monitoring, installation, operation, and maintenance requirements?

* * * * *

(f) * * *

(4) Use only unadjusted, quality-assured SO₂ concentration values in the emissions calculations; do not apply bias adjustment factors to the part 75 SO₂ data and do not use part 75 substitute data values. For startup or shutdown hours (as defined in §63.10042) the default electrical load and the diluent cap are available for use in the hourly SO₂ emission rate calculations, as described in §63.10007(f). Use a flag to identify each startup or shutdown hour and report a special code if the diluent cap or default electrical load is used to calculate the SO₂ emission rate for any of these hours.

* * * * *

(1) You must install, certify, operate, maintain, and quality assure each monitoring system necessary for demonstrating compliance with the PM or non-mercury metals work practice

standards for startup periods.

(1) You shall develop a site-specific monitoring plan for PM or non-mercury metals work practice monitoring during startup periods.

(2) You shall submit the site-specific monitoring plan upon request by the Administrator.

(3) The provisions of the monitoring plan must address the following items:

- (i) Monitoring system installation;
- (ii) Performance and equipment specifications;
- (iii) Schedule for initial and periodic performance evaluations;
- (iv) Performance evaluation procedures and acceptance criteria;
- (v) On-going operation and maintenance procedures; and
- (vi) On-going recordkeeping and reporting procedures.

(4) You may rely on monitoring system specifications or instructions to address paragraphs (1)(3)(i) through (vi) of this section.

(5) You must operate and maintain the monitoring system according to the site-specific monitoring plan.

8. Section 63.10011 is amended by revising paragraph (g) to read as follows:

§63.10011 How do I demonstrate initial compliance with the emission limits and work practice standards?

* * * * *

(g) You must follow the startup or shutdown requirements as given in Table 3 to this subpart for each coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGU.

(1) You may use the diluent cap and default electrical load values, as described in §63.10007(f), during startup periods or shutdown periods.

(2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods.

(3) You must report the information as required in § 63.10031.

(4) If you choose to use paragraph (2) of the definition of "startup" in § 63.10042 and you find that you are unable to safely engage and operate your particulate matter (PM) control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel, you may choose to rely on paragraph (1) of definition of "startup" in §63.10042 or you may submit a request to use an alternative non-opacity emissions standard, as described below.

(i) As mentioned in § 63.6(g)(1), the request will be published in the Federal Register for notice and comment rulemaking. Until promulgation in the Federal Register of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of "startup" in § 63.10042. You shall not implement the alternative non-opacity emissions standard until

promulgation in the Federal Register of the final alternative non-opacity emission standard.

(ii) The request need not address the items contained in § 63.6(g)(2).

(iii) The request shall provide evidence of a documented manufacturer-identified safety issue.

(iv) The request shall provide information to document that the PM control device is adequately designed and sized to meet the PM emission limit applicable to the EGU.

(v) In addition, the request shall contain documentation that:

(A) The EGU is using clean fuels to the maximum extent possible to bring the EGU and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel in the EGU;

(B) The EGU has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and

(C) Identifies with specificity the details of the manufacturer's statement of concern.

(vi) The request shall specify the other work practice standards the EGU owner or operator will take to limit HAP emissions during startup periods and shutdown periods to ensure a control level consistent with the work practice standards of the final rule.

(vii) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements.

9. Section 63.10020 is amended by revising paragraph (c) and adding paragraph (e) to read as follows:

§63.10020 How do I monitor and collect data to demonstrate continuous compliance?

* * * * *

(c) You may not use data recorded during EGU startup or shutdown in calculations used to report emissions, except as otherwise provided in §§63.10000(c)(1)(vi)(B) and 63.10005(a)(2)(iii). In addition, data recorded during monitoring system malfunctions or monitoring system out-of-control periods, repairs associated with monitoring system malfunctions or monitoring system out-of-control periods, or required monitoring system quality assurance or control activities may not be used in calculations used to report emissions or operating levels. You must use all of the quality-assured data collected during all other periods in assessing the operation of the control device and associated control system.

* * * * *

(e) Additional requirements during startup periods or shutdown periods.

(1) During each period of startup, you must record for each EGU:

(i) The date and time that clean fuels being combusted for the purpose of startup begins;

(ii) The quantity and heat input of clean fuel for each hour of startup;

(iii) The electrical load for each hour of startup;

(iv) The date and time that non-clean fuel combustion begins; and

(v) The date and time that clean fuels being combusted for the purpose of startup ends.

(2) During each period of shutdown, you must record for each EGU:

(i) The date and time that clean fuels being combusted for the purpose of shutdown begins;

(ii) The quantity and heat input of clean fuel for each hour of shutdown;

(iii) The electrical load for each hour of shutdown;

(iv) The date and time that non-clean fuel combustion ends; and

(v) The date and time that clean fuels being combusted for the purpose of shutdown ends.

(3) For PM or non-mercury HAP metals work practice monitoring during startup periods, you must monitor and collect data according to this section and the site-specific monitoring plan required by §63.10011(1).

(i) Except for an EGU that uses PM CEMS or PM CPMS to

demonstrate compliance with the PM emissions limit or that has LEE status for filterable PM or total non-Hg HAP metals for non-liquid oil-fired EGUs (or HAP metals emissions for liquid oil-fired EGUs), or individual non-mercury metals CEMS you must:

- (A) Record temperature and flow rate of post-combustion (exhaust) gas and amperage of forced draft fan(s) upstream of each filterable PM control device during each hour of startup.
- (B) Record temperature and flow rate of exhaust gas and amperage of induced draft fan(s) downstream of each filterable control device during each hour of startup.
- (C) For an EGU with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.
- (D) For an EGU with a fabric filter, record the number of compartments in service, as well as the differential pressure across the baghouse during each hour of startup.
- (E) For an EGU with a wet scrubber needed for filterable PM control, record the scrubber liquid to fuel ratio and the differential pressure of the liquid during each hour of startup.
- (ii) [Reserved]

10. Section 63.10021 is amended by revising paragraph (h) to read as follows:

§63.10021 How do I demonstrate continuous compliance with the emission limitations, operating limits, and work practice

standards?

* * * * *

(h) You must follow the startup or shutdown requirements as given in Table 3 to this subpart for each coal-fired, liquid oil-fired, or solid oil-derived fuel-fired EGU.

(1) You may use the diluent cap and default electrical load values, as described in §63.10007(f), during startup periods or shutdown periods.

(2) You must operate all CMS, collect data, calculate pollutant emission rates, and record data during startup periods or shutdown periods.

(3) You must report the information as required in § 63.10031.

(4) You may choose to submit an alternative non-opacity emission standard, in accordance with the requirements contained in § 63.10011(g)(4). Until promulgation in the Federal Register of the final alternative non-opacity emission standard, you shall comply with paragraph (1) of the definition of "startup" in § 63.10042.

* * * * *

11. Section 63.10022 is amended by revising the introductory text of paragraph (a) and adding paragraph (a)(4) to read as follows:

§63.10022 How do I demonstrate continuous compliance under the emissions averaging provision?

(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (4) of this section.

* * * * *

(4) For each existing EGU participating in the emissions averaging option, operate in accordance with the startup or shutdown work practice requirements given in Table 3 to this subpart.

* * * * *

12. Section 63.10030 is amended by revising the introductory text of paragraph (e) and adding paragraph (e)(8) to read as follows:

§63.10030 What notifications must I submit and when?

* * * * *

(e) When you are required to conduct an initial compliance demonstration as specified in § 63.10011(a), you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of this section, as applicable.

* * * * *

(8) Identification of whether you plan to rely on paragraph (1) or (2) of the definition of "startup" in § 63.10042.

(i) Should you choose to rely on paragraph (2) of the definition of "startup" in § 63.10042 for your EGU, you shall include a report that identifies:

- (A) The original EGU installation date;
- (B) The original EGU design characteristics, including, but not limited to, fuel and PM controls;
- (C) Each design PM control device efficiency;
- (D) The design PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds PM per hour;
- (E) The design time from start of fuel combustion to necessary conditions for each PM control device startup;
- (F) Each design PM control device efficiency upon startup of the PM control device;
- (G) The design EGU uncontrolled PM emission rate in terms of pounds PM per hour;
- (H) Each change from the original design that did or could have changed PM emissions, including, but not limited to, each different fuel mix, each revision to each PM control device, and each EGU revision, along with the month and year that the change occurred;
- (I) Current EGU PM producing characteristics, including, but not limited to, fuel mix and PM controls;
- (J) Current PM emission rate from the EGU in terms of pounds PM per MMBtu and pounds per hour;

(K) Current PM control device efficiency from each PM control device;

(L) Current time from start of fuel combustion to conditions necessary for each PM control device startup;

(M) Current PM control device efficiency upon startup of each PM control device; and

(N) Current EGU uncontrolled PM emission rate in terms of pounds PM per hour.

(ii) The report shall be prepared, signed, and sealed by a professional engineer licensed in the state where your EGU is located. Apart from preparing, signing, and sealing this report, the professional engineer shall be independent and not otherwise employed by your company, any parent company of your company, or any subsidiary of your company.

13. Section 63.10031 is amended by revising the introductory text of paragraph (c) and adding paragraph (c)(5) to read as follows:

§63.10031 What reports must I submit and when?

* * * * *

(c) The compliance report must contain the information required in paragraphs (c)(1) through (5) of this section.

* * * * *

(5) For each instance of startup or shutdown:

(i) Include the maximum clean fuel storage capacity and the

maximum hourly heat input that can be provided for each clean fuel determined according to the requirements of §63.10032(f).

(ii) Include the information required to be monitored, collected, or recorded according to the requirements of §63.10020(e).

(iii) If you choose to use CEMS for compliance purposes, include hourly average CEMS values and hourly average flow rates. Use units of milligrams per cubic meter for PM CEMS, micrograms per cubic meter for Hg CEMS, and ppmv for HCl, HF, or SO₂ CEMS. Use units of standard cubic meters per hour on a wet basis for flow rates.

(iv) If you choose to use a separate sorbent trap measurement system for startup or shutdown reporting periods, include hourly average mercury concentration in terms of micrograms per cubic meter.

(v) If you choose to use a PM CPMS, include hourly average operating parameter values in terms of the operating limit, as well as the operating parameter to PM correlation equation.

* * * * *

14. Section 63.10032 is amended by revising paragraph (f) to read as follows:

§63.10032 What records must I keep?

* * * * *

(f) Regarding startup periods or shutdown periods:

- (1) You must keep records of the occurrence and duration of each startup or shutdown;
- (2) You must keep records of the determination of the maximum clean fuel capacity for each EGU;
- (3) You must keep records of the determination of the maximum hourly clean fuel heat input and of the hourly clean fuel heat input for each EGU; and
- (4) You must keep records of the information required in §63.10020(e).

* * * * *

15. In §63.10042:

- a. Revise the definitions for "Boiler operating day," "Shutdown", and "Startup"; and
- b. Add in alphabetical order new definitions for "Clean fuel," "Default electrical load," and "Diluent cap."

The revisions and additions read as follows:

§63.10042 What definitions apply to this subpart?

* * * * *

Boiler operating day means a 24-hour period that begins at midnight and ends the following midnight during which any fuel is combusted at any time in the EGU, excluding startup periods or shutdown periods. It is not necessary for the fuel to be combusted the entire 24-hour period.

* * * * *

Clean fuel means natural gas, synthetic natural gas that meets the specification necessary for that gas to be transported on a Federal Energy Regulatory Commission (FERC) regulated pipeline, propane, distillate oil, synthesis gas that has been processed through a gas clean-up train such that it could be used in a system's combustion turbine, or ultra-low-sulfur diesel (ULSD) oil, including those fuels meeting the requirements of 40 CFR part 80, subpart I ("Subpart I—Motor Vehicle Diesel Fuel; Nonroad, Locomotive, and Marine Diesel Fuel; and ECA Marine Fuel").

* * * * *

Default electrical load means an electrical load equal to 5 percent of the maximum sustainable electrical output (megawatts), as defined in section 6.5.2.1(a)(1) of Appendix A to part 75 of this chapter, of an affected EGU that is in startup or shutdown mode. For monitored common stack configurations, the default electrical load is 5 percent of the combined maximum sustainable electrical load of the EGUs that are in startup or shutdown mode during an hour in which the electrical load for all operating EGUS is zero. The default electrical load is used to calculate the electrical output-based emission rate (lb/MWh or lb/GWh, as applicable) for any startup or shutdown hour in which the actual electrical load is zero. The default electrical load is not used for EGUs required to

make heat input-based emission rate (lb/MMBtu or lb/TBtu, as applicable) calculations. For the purposes of this subpart, the default electrical load is not considered to be a substitute data value.

* * * * *

Diluent cap means a default CO₂ or O₂ concentration that may be used to calculate the Hg, HCl, HF, or SO₂ emission rate (lb/MMBtu or lb/TBtu, as applicable) during a startup or shutdown hour in which the measured CO₂ concentration is below the cap value or the measured O₂ concentration is above the cap value. The appropriate diluent cap values for EGUs are presented in §63.10007(f) and in section 6.2.1.2 of Appendix A to this subpart. For the purposes of this subpart, the diluent cap is not considered to be a substitute data value.

* * * * *

Shutdown means the period in which cessation of operation of an EGU is initiated for any purpose. Shutdown begins when the EGU no longer generates electricity or makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes or when no coal, liquid oil, syngas, or solid oil-derived fuel is being fired in the EGU, whichever is earlier. Shutdown ends when the EGU no longer generates electricity or makes useful thermal energy (such as steam or heat) for industrial, commercial, heating, or cooling purposes,

and no fuel is being fired in the EGU. Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown.

Startup means:

(1) Either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on-site use). Any fraction of an hour in which startup occurs constitutes a full hour of startup; or

(2) The period in which operation of an EGU is initiated for any purpose. Startup begins with either the firing of any fuel in an EGU for the purpose of producing electricity or useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (other than the first-ever firing of fuel in a boiler following construction of the boiler) or for any other purpose after a shutdown event. Startup ends 4 hours after the EGU generates electricity that is sold or used for any other purpose (including on site use), or 4 hours after the EGU makes useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes (16 U.S.C. 796(18)(A) and 18 CFR 292.202(c)), whichever is earlier. Any fraction of an hour in which startup occurs constitutes a full hour of startup.

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16. Revise Table 3 to subpart UUUUU of part 63 to read as follows:

Table 3 to Subpart UUUUU of Part 63 – Work Practice Standards

As stated in §63.9991, you must comply with the following applicable work practice standards:

If your EGU is...	You must meet the following...
1. An existing EGU	Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in §63.10021(e).
2. A new or reconstructed EGU	Conduct a tune-up of the EGU burner and combustion controls at least each 36 calendar months, or each 48 calendar months if neural network combustion optimization software is employed, as specified in §63.10021(e).
3. A coal-fired, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU during startup	<p>You have the option of complying using either of the following work practice standards.</p> <p>(1) If you choose to comply using paragraph (1) of the definition of "startup" in § 63.10042, you must operate all CMS during startup. Startup means either the first-ever firing of fuel in a boiler for the purpose of producing electricity, or the firing of fuel in a boiler after a shutdown event for any purpose. Startup ends when any of the steam from the boiler is used to generate electricity for sale over the grid or for any other purpose (including on site use). For startup of a unit, you must use clean fuels as defined in § 63.10042 for ignition. Once you convert to firing coal, residual oil,</p>

or solid oil-derived fuel, you must engage all of the applicable control technologies except dry scrubber and SCR. You must start your dry scrubber and SCR systems, if present, appropriately to comply with relevant standards applicable during normal operation. You must comply with all applicable emissions limits at all times except for periods that meet the applicable definitions of startup and shutdown in this subpart. You must keep records during startup periods. You must provide reports concerning activities and startup periods, as specified in § 63.10011(g) and § 63.10021(h) and (i).

(2) If you choose to comply using paragraph (2) of the definition of "startup" in § 63.10042, you must operate all CMS during startup. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of startup.

For startup of an EGU, you must use one or a combination of the clean fuels defined in § 63.10042 to the maximum extent possible throughout the startup period. You must have sufficient clean fuel capacity to engage and operate your PM control device within one hour of adding coal, residual oil, or solid oil-derived fuel to the unit. You must meet the startup period work practice requirements as identified in §63.10020(e).

Once you start firing coal, residual oil, or solid oil-derived fuel, you must vent emissions to the main stack(s). You must comply with the applicable emission limits within 4 hours of start of electricity

	<p>generation. You must engage and operate your particulate matter control(s) within 1 hour of first firing of coal, residual oil, or solid oil-derived fuel.</p> <p>You must start all other applicable control devices as expeditiously as possible, considering safety and manufacturer/supplier recommendations, but, in any case, when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart that require operation of the control devices.</p> <p>Relative to the syngas not fired in the combustion turbine of an IGCC EGU during startup, you must either: (1) flare the syngas, or (2) route the syngas to duct burners, which may need to be installed, and route the flue gas from the duct burners to the heat recovery steam generator.</p> <p>If you choose to use just one set of sorbent traps to demonstrate compliance with Hg emission limits, you must comply with all applicable Hg emission limits at all times; otherwise, you must comply with all applicable emission limits at all times except for startup or shutdown periods conforming to this practice. You must collect monitoring data during startup periods, as specified in §63.10020(a) and (e). You must keep records during startup periods, as provided in §§63.10032 and 63.10021(h). Any fraction of an hour in which startup occurs constitutes a full hour of startup. You must provide reports concerning activities and startup periods, as specified in §§63.10011(g), 63.10021(i), and 63.10031.</p>
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<p>4. A coal-fired, liquid oil-fired (excluding limited-use liquid oil-fired subcategory units), or solid oil-derived fuel-fired EGU during shutdown</p>	<p>You must operate all CMS during shutdown. You must also collect appropriate data, and you must calculate the pollutant emission rate for each hour of shutdown.</p> <p>While firing coal, residual oil, or solid oil-derived fuel during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices and continue to operate those control devices after the cessation of coal, residual oil, or solid oil-derived fuel being fed into the EGU and for as long as possible thereafter considering operational and safety concerns. In any case, you must operate your controls when necessary to comply with other standards made applicable to the EGU by a permit limit or a rule other than this Subpart and that require operation of the control devices.</p> <p>If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the clean fuels defined in § 63.10042 and must be used to the maximum extent possible.</p> <p>Relative to the syngas not fired in the combustion turbine of an IGCC EGU during shutdown, you must either: (1) flare the syngas, or (2) route the syngas to duct burners, which may need to be installed, and route the flue gas from the duct burners to the heat recovery steam generator.</p> <p>You must comply with all applicable emission limits at all times except during startup periods and shutdown periods at which time you must meet</p>
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	<p>this work practice. You must collect monitoring data during shutdown periods, as specified in §63.10020(a). You must keep records during shutdown periods, as provided in §§63.10032 and 63.10021(h). Any fraction of an hour in which shutdown occurs constitutes a full hour of shutdown. You must provide reports concerning activities and shutdown periods, as specified in §§63.10011(g), 63.10021(i), and 63.10031.</p>
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17. Revise Table 9 to subpart UUUUU of part 63 to read as follows:

Table 9 to Subpart UUUUU of Part 63 – Applicability of General Provisions to Subpart UUUUU

As stated in §63.10040, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Applies to subpart UUUUU
§63.1	Applicability	Yes.
§63.2	Definitions	Yes. Additional terms defined in §63.10042.
§63.3	Units and Abbreviations	Yes.
§63.4	Prohibited Activities and Circumvention	Yes.
§63.5	Preconstruction Review and Notification Requirements	Yes.
§63.6(a), (b) (1) - (5), (b) (7), (c), (f) (2) - (3), (h) (2) - (9), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes.
§63.6(e) (1) (i)	General Duty to minimize emissions	No. See §63.10000(b) for general duty requirement.

§63.6(e)(1)(ii)	Requirement to correct malfunctions ASAP	No.
§63.6(e)(3)	SSM Plan requirements	No.
§63.6(f)(1)	SSM exemption	No.
§63.6(h)(1)	SSM exemption	No.
§63.6(g)	Compliance with Standards and Maintenance Requirements, Use of an alternative non-opacity emission standard	Yes. See §§63.10011(g)(4) and 63.10021(h)(4) for additional requirements.
§63.7(e)(1)	Performance testing	No. See §63.10007.
§63.8	Monitoring Requirements	Yes.
63.8(c)(1)(i)	General duty to minimize emissions and CMS operation	No. See §63.10000(b) for general duty requirement.
§63.8(c)(1)(iii)	Requirement to develop SSM Plan for CMS	No.
§63.8(d)(3)	Written procedures for CMS	Yes, except for last sentence, which refers to an SSM plan. SSM plans are not required.
§63.9	Notification Requirements	Yes.
§63.10(a), (b)(1), (c), (d)(1)-(2), (e), and (f)	Recordkeeping and Reporting Requirements	Yes, except for the requirements to submit written reports under §63.10(e)(3)(v).
§63.10(b)(2)(i)	Recordkeeping of occurrence and duration of startups and shutdowns	No.
§63.10(b)(2)(ii)	Recordkeeping of malfunctions	No. See 63.10001 for recordkeeping of (1) occurrence and duration and (2) actions taken during malfunction.

§63.10(b)(2)(iii)	Maintenance records	Yes.
§63.10(b)(2)(iv)	Actions taken to minimize emissions during SSM	No.
§63.10(b)(2)(v)	Actions taken to minimize emissions during SSM	No.
§63.10(b)(2)(vi)	Recordkeeping for CMS malfunctions	Yes.
§63.10(b)(2)(vii) - (ix)	Other CMS requirements	Yes.
§63.10(b)(3), and (d)(3) - (5)		No.
§63.10(c)(7)	Additional recordkeeping requirements for CMS - identifying exceedances and excess emissions	Yes.
§63.10(c)(8)	Additional recordkeeping requirements for CMS - identifying exceedances and excess emissions	Yes.
§63.10(c)(10)	Recording nature and cause of malfunctions	No. See §63.10032(g) and (h) for malfunctions recordkeeping requirements.
§63.10(c)(11)	Recording corrective actions	No. See §63.10032(g) and (h) for malfunctions recordkeeping requirements.
§63.10(c)(15)	Use of SSM Plan	No.
§63.10(d)(5)	SSM reports	No. See §63.10021(h) and (i) for malfunction reporting requirements.
§63.11	Control Device Requirements	No.
§63.12	State Authority and Delegation	Yes.

§§63.13-63.16	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.
§§63.1(a)(5), (a)(7)-(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9).	Reserved	No.

18. Appendix A to subpart UUUUU is amended by adding sections 7.1.2.5, 7.1.8.5, and 7.1.8.6, to read as follows:

Appendix A to Subpart UUUUU of Part 63-Hg Monitoring Provisions

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7. Recordkeeping and Reporting

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7.1.2 Operating Parameter Records. * * *

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7.1.2.5 If applicable, a flag to indicate that the hour is a startup or shutdown hour (as defined in §63.10042).

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7.1.8 Hg Emission Rate Records. * * *

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7.1.8.5 If applicable, a code to indicate that the default electrical load (as defined in §63.10042) was used to calculate the Hg emission rate.

7.1.8.6 If applicable, a code to indicate that the diluent cap (as defined in §63.10042) was used to calculate the Hg emission rate.

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19. Appendix B to subpart UUUUU is amended by revising section 9.3.1 and adding sections 10.1.2.5, 10.1.7.5, and 10.1.7.6 to read as follows:

Appendix B to Subpart UUUUU of Part 63--HCl and HF Monitoring Provisions

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9. Data Reduction and Calculations

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9.3.1 For heat input-based emission rates, select an appropriate emission rate equation from among Equations 19-1 through 19-9 in EPA Method 19 in Appendix A-7 to part 60 of this chapter, to calculate the HCl or HF emission rate in lb/MMBtu. Multiply the HCl concentration value (ppm) by 9.43×10^{-8} to convert it to lb/scf, for use in the applicable Method 19 equation. For HF, the conversion constant from ppm to lb/scf is 5.18×10^{-8} . The appropriate diluent cap value from section 6.2.1.2 of Appendix A

to this subpart may be used to calculate the HCl or HF emission rate (lb/MMBtu) during startup or shutdown hours.

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10. Recordkeeping Requirements

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10.1.2 Operating Parameter Records. * * *

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10.1.2.5 If applicable, a flag to indicate that the hour is a startup or shutdown hour (as defined in §63.10042).

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10.1.7 HCl and HF Emission Rate Records. * * *

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10.1.7.5 If applicable, a code to indicate that the default electrical load (as defined in §63.10042) was used to calculate the HCl or HF emission rate.

10.1.7.6 If applicable, a code to indicate that the diluent cap (as defined in §63.10042) was used to calculate the HCl or HF emission rate.

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